EH2PUB/11-97/07SR

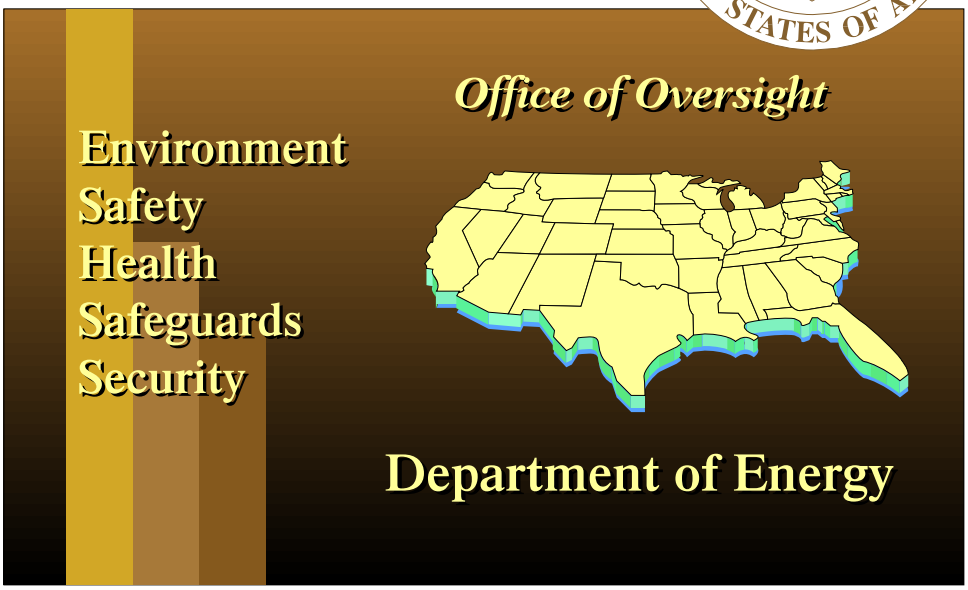
OVERSIGHT

Independent Oversight Review of the

Radiation Protection Program at the

Albuquerque Operations Office Transportation Safeguards Division

November 1997



Office of Environment, Safety and Health

TABLE OF CONTENTS

Abbreviations Used in This Report

AL	DOE Albuquerque Operations Office
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
DOT	Department of Transportation
EH	DOE Office of Environment, Safety and Health
ES&H	Environment, Safety, and Health
FEOSH	Federal Employee Occupational Safety and Health
GERT	General Employee Radiological Training
mrem	one thousandth of a rem
OSHD	AL Occupational Safety and Health Division
OTMO	AL Office of Technical Management and Operations
rem	roentgen equivalent man
SNL	Sandia National Laboratories
SOP	Standard Operating Procedure
SST	Safe Secure Trailer
TLD	Thermoluminescent Dosimeter
TSAR	Transportation Safety Analysis Report
TSD	Transportation Safeguards Division

OVERSIGHT

Executive Summary

EVALUATION:	Office of Oversight Review of the Radiation Protection Program
SITE:	Albuquerque Operations Office, Transportation Safeguards Division, and Courier Sections in Three Locations–Albuquerque New Mexico, Amarillo Texas, and Oak Ridge, Tennessee
DATES:	August-September 1997

Scope

The Department of Energy (DOE) Office of Oversight reviewed the Albuquerque Transportation Safeguards Division (TSD) radiation protection program during August 1997. The purpose of this review was to evaluate radiation protection program management and the implementation of radiological controls that are designed to protect the TSD couriers.

Results

Controls that protect TSD couriers, such as packaging radioactive materials in special containers and performing surveys to ensure that radiation and contamination levels are within allowable limits, are implemented primarily by the organizations that prepare the materials for shipping. These controls are generally effective, as evidenced by the very low radiation exposures to couriers and absence of reported contamination incidents. The recorded radiation exposures are significantly less than the administrative control limit, and much lower than the regulatory exposure limits. Further, TSD has established a credible technical basis for concluding that the likelihood of radiation uptakes from contamination is low. It is also notable that TSD management had implemented radiation protection controls, including an external dosimetry program, prior to being required to do so by 10 CFR 835.

In December 1995, the DOE Headquarters Office of Environment, Safety and Health approved an exemption to 10 CFR 835. The TSD radiation protection program meets the conditions of this exemption, as well as most other applicable DOE, Department of Transportation, and Albuquerque Operations Office requirements. One issue was noted involving surveys of aircraft for contamination; TSD is currently preparing a technical position on aircraft contamination surveys. Although the radiation protection program has most required elements, several areas need improvement and increased management attention:

- Communications and Management Involvement. TSD management has used several mechanisms to communicate with the workforce. However, personnel throughout most levels of the organization expressed concerns about the adequacy of communication. Much of the workforce indicated that they had stopped raising questions/concerns to managers because of a lack of responsiveness and/or followup. Conversely, some managers and AL support personnel expressed their perception that the couriers had "stopped listening." Some of the information provided to couriers was not adequately verified, contributing to a perception by many couriers that management was not providing adequate information. Further, some couriers had concerns regarding radiation protection, such as concerns about working near contaminated areas and removal

of radiation monitors, that had persisted for some time. While available scientific data indicate that couriers had not been contaminated or received significant exposure to radiation in recent years (dose records and DOE Occurrence Reporting and Processing System data back to 1989), TSD management has not been effective in ensuring that couriers are provided with adequate information to resolve their concerns.

- Quality and Maintenance of Program and Work Documents. There were inconsistencies among the various radiation protection documents, and the technical basis for some important decisions, such as removing radiation survey instruments from TSD convoys, was not adequately documented. The Courier Standard Operating Procedure was identified as a key mechanism for implementing radiation protection program requirements; however, the Courier Standard Operating Procedure was not comprehensive or well maintained to ensure accuracy.

- Implementation of Procedures**.** Although most observed activities were performed appropriately and in accordance with procedures, some aspects of operations related to radiological protection were not adequately implemented. For example, the use of shipment/vehicle certification forms was inconsistent; interviews indicated that some transportation escorts were not wearing dosimeters while transporting radioactive material, as required in the standard operating procedure; and systems intended to prevent Safe Secure Transport vehicle use prior to completion of required radiological surveys and maintenance activities were not being correctly implemented because returned vehicles were parked in "ready lines."

Conclusions

Because of the effective controls for transporting radioactive materials, the potential for significant exposure is low. The recorded doses are very low and much less than regulatory limits. Further, available scientific data indicate that couriers had not been contaminated or received significant exposure to radiation in recent years (dose records and DOE Occurrence Reporting and Processing System data back to 1989). However, TSD needs to place more emphasis on ensuring that program documentation and procedures are current and that requirements are rigorously implemented.

Communication between management and couriers has not been effective, and employee concerns and feedback mechanisms do not have the confidence of the couriers. Both management and the couriers indicated that communications were in need of significant improvement, and management did not have a plan to address the acknowledged communications issues. Increased involvement of TSD managers and support personnel with operations is needed to correct this situation. Additionally, radiological training does not adequately relate to actual work activities, conditions, and associated radiological controls. Such weaknesses contributed to the many questions/concerns that TSD personnel had about radiological protection.